

*epi*TRENDS

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Extensively Drug-Resistant Tuberculosis (XDR TB) and Current Tuberculosis Epidemiology in Washington

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In May, 2007, many people first became aware of drug resistant tuberculosis with the story of an international traveler infected with a resistant strain. To date there has not been a case of extensively drug-resistant tuberculosis (XDR TB) in Washington State. There have been 48 confirmed cases of XDR TB reported in the United States from 1993-2007. Public health agencies maintain vigilance to identify such cases.

Tuberculosis in Washington

Tuberculosis (TB) was known as consumption in the past because of the long wasting illness resulting from infection. Eighty years ago there were 1,986 cases reported for a rate of 1.3/1000 population. Over a thousand tuberculosis deaths were also reported annually at that time. While TB has been greatly controlled in this country the disease remains a significant source of illness and death for humanity. A particular concern is the emergence of tuberculosis strains resistant to available treatment.

XDR TB Overview

Extensively drug-resistant tuberculosis is a relatively rare type of multidrug-resistant tuberculosis (MDR TB). It is resistant to almost all drugs used to treat TB, including the two best first-line drugs: isoniazid and rifampin. XDR TB is also resistant to the best second-line medications: fluoroquinolones and at least one of three injectable drugs (i.e., amikacin, kanamycin, or capreomycin).

Because XDR TB is resistant to the most powerful first-line and second-line drugs, patients are left with treatment options that are much less effective and often have worse treatment outcomes.

XDR TB is of special concern for persons with HIV infection or other conditions that can weaken the immune system. These persons are more likely to develop TB disease once they are infected, and also have a higher risk of death once they develop TB disease.

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The risk of acquiring XDR TB in the United States appears to be relatively low. However, it is important to acknowledge the ease with which TB can spread. World travel can result in exposures for travelers to other countries and can also bring infected individuals into the country. As long as XDR TB exists, the United States is at risk and must address the threat.

What can health care providers do to prevent XDR TB?

Health care providers can help prevent MDR and XDR TB by quickly diagnosing all tuberculosis cases, following recommended treatment guidelines, monitoring patients' response to treatment, and making sure therapy is completed. Every TB isolate should be forwarded to the Department of Health Public Health Laboratories for drug resistance testing.

Providers should also ensure proper implementation of infection control procedures to prevent exposure to TB in hospitals or health-care settings where TB patients are likely to be seen. Current infection control guidelines are below. Good respiratory hygiene practices in health care setting can prevent the spread of other infections such as influenza and whooping cough.

See: Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Settings, 2005, MMWR December 30, 2005 / Vol. 54 / No. RR-17:
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm>

Washington State Laws

In Washington State it is the health officer of the local health jurisdiction that is responsible for the control and prevention of spread of any contagious or infectious disease.

Each health officer is hereby directed to use every available means to ascertain the existence of, and immediately to investigate, all reported or suspected cases of tuberculosis in the infectious stages within his or her jurisdiction and to ascertain the sources of such infections. In carrying out such investigations, each health officer is hereby invested with full powers of inspection, examination, treatment, and quarantine or isolation of all persons known to be infected with tuberculosis in an infectious stage or persons who have been previously diagnosed as having tuberculosis and who are under medical orders for treatment or periodic follow-up examinations. (Washington Revised Code 70.28.031 and Chapter 246-170 Washington Administrative Code)

Health care providers in the state are hereby required to report to the local health department cases of every person having tuberculosis who has been attended by, or who has come under the observation of, the health care provider within one day. (Revised Code of Washington 70.28.010 and Chapter 246-101 Washington Administrative Code)

For further information on tuberculosis please access: <http://www.doh.wa.gov/cfh/TB/>

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WORLD TB DAY: MARCH 24th, 2007

A Glance at Washington's Tuberculosis Epidemic



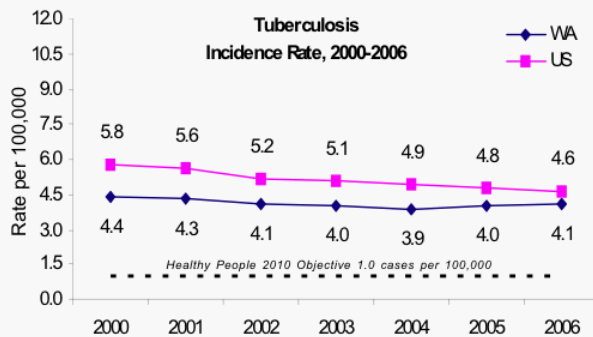
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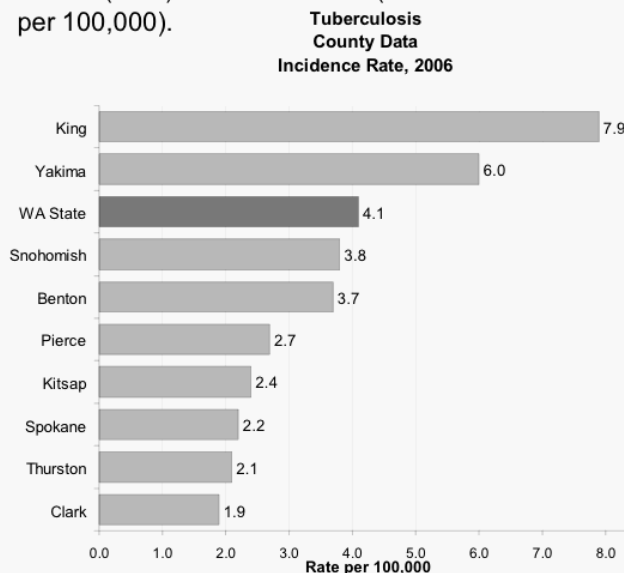
Reported TB Cases

Statewide, annual numbers of newly reported TB cases have risen slightly in recent years although the incidence rate has remained relatively stable. From 2000 to 2006, case counts ranged from 245 to 262. In 2006, Washington State reported 262 cases of tuberculosis. The incidence rate was 4.1 cases per 100,000 populations. This rate was slightly less than the national rate of 4.6 per 100,000.



County-Level

In 2006, 34 of Washington's 39 counties had 10 or fewer cases of tuberculosis. King County accounted for 145 (55%) of the 262 cases (incidence rate of 7.9 per 100,000).



Counties not displayed had too few cases to support a reliable rate estimate and were omitted

Race-Ethnicity

Tuberculosis rates by race and ethnic origin in Washington were highest among racial and ethnic minorities. Asians, Blacks, and American Indian/Alaskan Natives continue to have the highest rates of TB as compared with whites.

Tuberculosis
Race/Ethnicity Data
Incidence Rate, 2006

Race/Ethnicity	No.	(%)	Rate (Per 100,000)
White, alone	54	(21)	1.1
Black, alone	36	(14)	17.8
American Indian/Alaskan Native, alone	11	(4)	11.9
Asian Pacific/Islander, alone	115	(44)	31.7
Hispanic, all races	42	(16)	8.0

Races not displayed had too few cases to support a reliable rate estimate and were omitted

Country of Origin

Seventy-three percent of the 2006 tuberculosis cases in Washington were among foreign-born immigrants or refugees from countries with high rates of tuberculosis; Vietnam, Mexico, the Philippines, or Ethiopia.

Age & Gender

The proportion of cases by gender changed slightly in 2006; an increased proportion of male cases were reported in 2006 as compared to 2005 (63% vs. 59%, respectively).

Tuberculosis & HIV/AIDS

Co-morbidity with HIV remains low in Washington. The number of TB cases among persons with HIV/AIDS decreased slightly in 2006; 11 (4%) cases were reported in 2006 vs. 15 (6%) cases reported in 2005.

Drug Resistance

Drug sensitivity testing in 2006 revealed that of the 201 tuberculosis case specimens available for analysis, 24 (12%) were resistant to isoniazid. Only four people (2%) had specimens that were multi-drug resistant (that is, resistant to both isoniazid and rifampin). In 2006, isoniazid resistance was slightly higher in specimens collected from foreign-born persons (10%) than in specimens from US-born people (7%).